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REMARKS

This is a full and timely response to the non-final Official Action mailed September 15, 2006. Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

Claim Status:

Claims 37-39 and 62-67 were withdrawn from consideration under the imposition of an earlier Restriction Requirement. To expedite prosecution of this application, claims 37-39 and 62-67 have been cancelled by the present paper. The withdrawn claims are cancelled without prejudice or disclaimer. Applicant reserves the right to file any number of continuation or divisional applications to the withdrawn claims or to any other subject matter described in the present application.

No other claims are amended, added or cancelled by the present paper. Thus, claims 1-36, 40-61 and 68-70 are currently pending for further action.

Prior Art:

Claims 1-36, 40-61 and 68-70 were rejected as anticipated under 35 U.S.C. § 102(3) by U.S. Patent Application Pub. No. 2003/0090597 to Katoh et al. ("Katoh"). For at least the following reasons, this rejection is respectfully traversed.

## Claim 1 recites:

A display system for displaying an image, comprising:  
an image processing unit configured to process image data and generate a number of image sub-frames corresponding to said image data;  
a modulator configured to modulate a light beam according to said image sub-frames;

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*a scrolling color device configured to scroll a plurality of colors across a face of said modulator to produce a color light beam bearing said number of image sub-frames;*

*display optics configured to display said image from said color light beam; and a wobbling device configured to displace said color light beam such that said image sub-frames are displayed with varying spatial offsets.*  
(Emphasis added).

As explained in Applicant's specification, a scrolling color device moves or scrolls bands of a plurality of different colors across the face of a light modulator. "Fig. 2 shows the image of red (114), green (115), and blue (116) segments of light moving, or scrolling, across the face (113) of a modulator." (Applicant's specification, paragraph 0028). "[S]crolling color increases the brightness of a displayed image by allowing all the primary colors to be present on the modulator at the same time." (*Id.*). "Thus, the waste of light caused by *sequential* color is avoided." (Applicant's specification, paragraph 0020) (Emphasis added).

In contrast, Katoh does not teach or suggest the claimed display system that includes a modulator, "a scrolling color device configured to scroll a plurality of colors across a face of said modulator" and a wobbling device. In this regard, the Office Action argues that Katoh does teach "a scrolling color device (*see Fig. 2*)." (Action of 9/15/06, p. 6) (emphasis added). However, Fig. 2 of Katoh merely illustrates "a cross-sectional view schematically illustrating an LCD panel." (Katoh, paragraph 0077). The LCD panel of Katoh is, itself, a light modulator. It is not a scrolling color device that causes differently-colored bands of light to move or scroll across the face of a modulator as claimed. Katoh does not teach or suggest the claimed scrolling color device.

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed.

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Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least these reasons, the rejection of claim 1 and its dependent claims based on Katoh should be reconsidered and withdrawn.

Independent claim 28 recites:

A display system for displaying an image based upon image data, comprising:  
an image processing unit configured to define a plurality of sub-frame images including a first sub-frame image and at least a second sub-frame image based upon said image data;

*a scrolling color device configured to generate a scrolling color light beam comprising a plurality of colors;*

a spatial light modulator disposed to receive and modulate said scrolling color light beam based upon said plurality of sub-frame images; and

a wobbling device configured to cause said sub-frame images to be displayed in an alternating manner such that said first sub-frame image is spatially offset from said second sub-frame image.

(Emphasis added).

In contrast, as demonstrated above, Katoh does not teach or suggest the claimed display system including a scrolling color device. Katoh definitely does not teach or suggest any component that is "configured to generate a scrolling color light beam comprising a plurality of colors."

Again, "[a] claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least these reasons, the rejection of claim 28 and its dependent claims based on Katoh should be reconsidered and withdrawn.

Independent claim 34 recites:

A display system for displaying an image during an image frame period based upon image frame data defining an image frame, comprising:

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image processing electronics configured to generate a plurality of sub-frame data arrays based on said frame data, each of said sub-frame data arrays defining each of separate sub-frame images during said frame period;

a spatial light modulator configured to generate a light beam based on said sub-frame data arrays;

*a scrolling color device configured to scroll a plurality of colors across said spatial light modulator during said generation of said light beam;* and

a wobbling device configured to provide a relative displacement of each of said sub-frame images during said frame period.

(Emphasis added).

As demonstrated above with respect to claim 1, Katoh does not teach or suggest the claimed display system that includes "a scrolling color device configured to scroll a plurality of colors across a face of said spatial light modulator." Again, "[a] claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least these reasons, the rejection of claim 34 and its dependent claims based on Katoh should be reconsidered and withdrawn.

Independent claim 40 recites:

A method of displaying an image, said method comprising:

processing image data defining said image and generating a number of image sub-frames corresponding to said image data;

generating a light beam bearing said number of image sub-frames with a modulator;

*scrolling a plurality of colors across a face of said modulator during said generation of said light beam* such that said light beam comprises a color light beam bearing said number of image sub-frames;

displaying said color light beam to form said image; and

displacing said color light beam such that each of said number of image sub-frames is spatially displayed in an image sub-frame location offset from others of said image sub-frames.

(Emphasis added).

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As demonstrated above, Katoh does not teach or suggest a method that includes "scrolling a plurality of colors across a face of [a] modulator." Again, "[a] claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least these reasons, the rejection of claim 40 and its dependent claims based on Katoh should be reconsidered and withdrawn.

Independent claim 68 recites:

A system for displaying an image, said system comprising:  
processing means for processing image data defining said image and  
generating a number of image sub-frames corresponding to said image data;  
modulation means for generating a light beam bearing said number of image  
sub-frames;  
*scrolling means for scrolling a plurality of colors across a face of said*  
*modulation means* during said generation of said light beam such that said light beam  
comprises a color light beam bearing said number of image sub-frames;  
display means for displaying said color light beam to form said image; and  
displacement means for displacing said color light beam such that each of said  
number of image sub-frames is spatially displayed in an image sub-frame location  
offset from others of said image sub-frames.  
(Emphasis added).

As demonstrated above, Katoh does not teach or suggest a system for displaying an image that includes "*scrolling means for scrolling a plurality of colors across a face of [a] modulation means*." Again, "[a] claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least these reasons, the rejection of claim 68 and its dependent claims based on Katoh should be reconsidered and withdrawn.

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The recent Office Action does not specifically address any of the dependent claims of the application. Rather, the Office Action dismisses the dependent claims with the following statement. "As to dependent claims 2-27, 29-33, 35, 36, 41-61, 69, 70 see Figs. 1-76 of Katoh." (Action of 9/15/06, p. 7).

Applicant respectfully disagrees that the subject matter of the dependent claims is taught by the 76 figures of Katoh. Rather, the dependent claims of the application recite subject matter that is clearly further patentable over the teachings of Katoh. However, Applicant has no information as to how the Office would construe the teachings of Katoh to apply to the various dependent claims.

For example, claim 2 recites "wherein said scrolling color device scrolls said plurality of colors across said face of said modulator an integer number of times during an image sub-frame time period corresponding to said each of said number of image sub-frames." As has been demonstrated above, Katoh fails to teach or suggest the claimed scrolling color device. Consequently, it is unclear how Katoh can teach that a "scrolling color device scrolls said plurality of colors across said face of said modulator an integer number of times during an image sub-frame time period corresponding to said each of said number of image sub-frames" as recited in claim 2.

Claim 4 recites "a system timing unit configured to synchronize said scrolling color device and said wobbling device such that said scrolling color device scrolls said plurality of colors across said face of said modulator an integer number of times during an image sub-frame time period corresponding to said each of said number of image sub-frames." Again, Katoh does not teach a scrolling color device. Consequently, it is unclear how Katoh can teach or suggest a timing unit for synchronizing the operation of a scrolling color device and a wobbling device as recited in claim 4.

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These are just two, non-exclusive examples of dependent claims that recite subject matter that appears to clearly distinguish over the teachings of Katoh. Consequently, the rejection of the dependent claims of the application should either be supplemented with an explanation of how the applied prior art anticipates the subject matter of each dependent claim or the rejection of the dependent claims should be reconsidered and withdrawn.

Double Patenting:

The recent Office Action also rejected the pending claims under the judicially-created doctrine of obviousness type double patenting in view of either U.S. Patent No. 7,086,736 or 6,984,040. For at least the following reasons, these rejections are also respectfully traversed.

With regard to U.S. Patent No. 7,086,736, the Office Action argues that the scrolling color device of the present claims is equated with "a sequential color device configured to shine a color light beam on a face of said modulator, said color light beam having a color that sequentially rotates through said plurality of colors" as taught by U.S. Patent No. 7,086,736. (Action of 9/15/06, p. 3). This is clearly incorrect.

As noted above, and as clearly explained in Applicant's specification, a scrolling color device is different from a sequential color device. "In a scrolling color display system, all the primary colors are present on the modulator at the same time. Thus, the waste of light caused by sequential color is avoided. A display system configured to enhance an image's apparent resolution and hide pixel inaccuracies while using scrolling color is described herein."

(Applicant's specification, paragraph 0020).

Therefore, the recent Office Action fails to demonstrate that the claims of U.S. Patent No. 7,086,736 teach, suggest or render obvious all the elements of the claims of the present

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application. For at least this reason, the double patenting rejection based on U.S. Patent No. 7,086,736 should be reconsidered and withdrawn.

Likewise, with regard to U.S. Patent No. 6,984,040, the Office Action equates claimed scrolling color device of the present claims with "a periodic light generator having a varying color light period and configured to generate a sequence of primary colors during each of at least two of the image sub-frame periods" as taught by U.S. Patent No. 6,984,040. (Action of 9/15/06, p. 5). Again, this is clearly incorrect for the same reasons given above.

Therefore, the recent Office Action fails to demonstrate that the claims of the present application are obvious in view of the claims of U.S. Patent No. 6,984,040. For at least this reason, the double patenting rejection based on U.S. Patent No. 6,984,040 should also be reconsidered and withdrawn.



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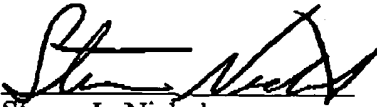
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Conclusion:

For the foregoing reasons, the present application is thought to be clearly in condition for allowance. Accordingly, favorable reconsideration of the application in light of these remarks is courteously solicited. If the Examiner has any comments or suggestions which could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

DATE: December 13, 2006



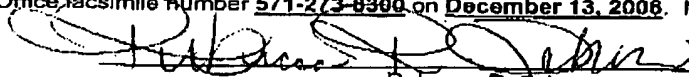
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